REMARKS

Claim Status

Applicants acknowledge, with appreciation, the indication that claims 6-8, 11, 13, 14, 17-19, 21-23 and 32 contain allowable subject matter. With the clarification made herein to claim 1, all of these dependent claims are allowable therewith. Therefore, none has been rewritten into independent form Reconsideration of the application, as amended, is respectfully requested.

Overview of the Office Action

Claims 1-23 were objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Withdrawal of the objection is in order.

Claims 1, 2, 4, 5, 9, 10, 12, 15, 16, 20 and 31 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,210,389 ("*Burkhart*") in view of U.S. Patent No. 6,228,456 ("*Butterbach*"). Claim 3 stands rejected under 35 U.S.C. §103(a) as unpatentable over *Burkhart* in view of *Butterbach*, and in further view of U.S. Patent No. 6,806,544 ("*Lin*"). Applicants have carefully considered the Examiner's rejections, and the comments provided in support thereof, and respectfully disagree with the Examiner's analysis. For the reasons which follow, it is respectfully submitted that all claims of the present application are patentable over the cited references.

Objection of the Claims

The Examiner has objected to claim 1 as being indefinite. Claim 1 has been revised herein to overcome this objection in a self-explanatory manner. Accordingly, withdrawal of this objection is in order.

Summary of Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

An electrical contact of an optoelectronic semiconductor chip is disclosed. The electrical contact comprises a mirror layer comprised of a metal or a metal alloy which is adapted to be formed over the semiconductor chip, a protective layer over the mirror layer, an electrically conductive barrier layer formed over the protective layer, a coupling layer formed over the barrier layer, and a solder layer formed over the coupling layer (see pg. 3, paragraph [0010] and Fig. 1 of the originally filed specification). The layers may also be arranged in a different sequence, e.g. the position of the coupling layer and the barrier layer may be interchanged (see par. [0021]).

Descriptive Summary of the Prior Art

Burkhart discloses "a method for making a bond for attaching a crystalline or vitreous optical element to a heat sink that dissipates ink from the element" (see col. 1, lines 6-9).

Butterbach discloses a method for producing an adhesive that would enable DVDs to be economically produced without the disadvantages associated with UV-curing adhesives and hotmelt adhesives (see col. 2, lines 55-59).

Lin discloses "a method and system for cutting a wafer comprising a conductive substrate attached to an array of integrated devices includes placing the wafer on a stage, such as a movable X-Y stage including a vacuum chuck having a porous mounting surface, and securing the wafer during and after cutting by vacuum pressure through the pores" of the surface (see Abstract).

Patentability of claim 1 over the Prior Art under 35 U.S.C. §103

Claim 1 has been amended to recite "a protective layer (3) over said mirror layer (2); a layer sequence of a barrier layer (4) and a coupling layer (5) over said protective layer; and a solder layer (8) over said layer sequence."

Burkhart (col. 1, lines 54-59; Fig. 1) teaches a laser that includes an elongated reflector 2 of elliptical cross-sectional configuration, a light source 4 located at one focus of the elliptical reflector 2, a laser rod 6 mounted at the other focus of the reflector 6, and a heat sink or mount 8 that supports the rod 6 in the reflector 2. *Burkhart* (col. 3, lines 13-14) states that "the laser rod 6 and mount 8 are joined together along a bond 10." *Burkhart* (col. 3, lines 32-36; Fig. 3) states that "the bond 10 consists of a reflective layer 20, a barrier layer 22, a wetting layer 24, a solder layer 26, and another wetting layer 28 arranged in that order between the convex outer surface of the rod 6 and the concave surface 12 at the small end of the mount 8".

However, *Burkhart* fails to teach an electrical contact having the claimed configuration recited in amended independent claim 1. Moreover, the bond disclosed in *Burkhart* is not an electrical contact having the configuration recited in Applicant's amended claim 1. Rather, *Burkhart* teaches that the bond is used to join the rod 6 and mount 8 together in order to permit heat generated by the laser to be dissipated by the mount.

The Examiner has combined *Butterbach* with *Burkhart* based on the failure of *Burkhart* to disclose "a protective layer over the reflector layer 20". However, the combination of *Burkhart* and *Butterbach* fails to achieve the invention recited in amended independent claim 1. *Butterbach* (col. 3, lines 15-19) teaches hotmelt adhesives that consist of known components, such as a thermoplastic polymeric binder, tackifying resins, optionally plasticizers, stabilizers/antioxidants, optional fillers or extenders. *Butterbach* (col. 3, lines 22-24) states,

"suitable polymeric binders are thermoplastic elastomers, polyamides, ethylene copolymers, polyolefins and polyesters with a high amorphous component". *Butterbach* (col. 3, lines 24-30) teaches use of electrically insulating materials for an adhesive layer. That is, *Butterbach* teaches an adhesive (protective) layer that is electrically insulating. Consequently, *Butterbach* teaches away from the present invention which is directed to an electrical contact that is electrically conductive.

Applicant's claim 1 recites a protective layer. Combining *Butterbach* with *Burkhart* to provide such a protective layer, which the Examiner has conceded is absent from *Burkhart*, achieves an inoperative device because the insulating layer taught in *Butterbach* would be inserted into a sequence of metal layers and, thus, interrupt the electrical flow of what should be an electrical contact. A person with ordinary skill in the art of designing electrical contacts would most certainly avoid making such a conmbination. Therefore, *Butterbach* fails to cure the deficiency of *Burkhart*. Consequently, independent claim 1 is patentable over the combination of *Burkhart* with *Butterbach*.

Dependent claims

In view of the patentability of independent claim 1, for the reasons presented above, each of dependent claims 2-23, 31 and 32 is patentable therewith over the prior art. Moreover, each of these claims includes features which serve to even more clearly distinguish the invention over the applied references.

The Examiner has applied *Liu* based on the failure of *Burkhart* and *Butterbach* to teach or suggest "a nitride compound semiconductor material", as recited in dependent claim 3. However, *Liu* fails to cure the deficiencies of *Burkhart* and *Butterbach*, since *Liu* also fails to teach the features related to an electrical contact, as recited in independent claim 1.

Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Respectfully submitted,

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Dated: December 22, 2005